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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

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Plastics - Fire tests - Standard ignition sources

塑料 燃烧试验 标准点火源

(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document adopts ISO 10093:2020 "Plastics - Test for ignition sources".

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China Petroleum and Chemical Industry Federation.

This document is under the jurisdiction of the National Technical Committee on Plastics Standardization (SAC/TC15).

Introduction

Fires are caused by a variety of possible ignition sources. Statistical analysis of fires can help identify primary and secondary ignition sources, especially...

It refers to fires inside buildings. The most common sources of fire are as follows.

- a) Cooking stove;
- b) Environmental heating appliances;
- c) Wires, connectors, and terminals;
- d) Other electrical appliances (such as washing machines, electric blankets, televisions, water heaters);
- e) Cigarettes;
- f) Matches and lighters;
- g) Blowtorches, spray guns, and welding torches;
- h) Incinerated garbage;
- i) Candle.

The aforementioned ignition sources cover the main initial ignition sources of accidental fires. Other ignition sources may involve arson. Research into the causes of the fires is needed.

This indicates that a primary ignition source (such as a discarded, unextinguished cigarette butt or match) can ignite waste paper, which then becomes a secondary ignition source of greater intensity.

When analyzing and evaluating various ignition sources involving plastic material applications, it is important to answer the following questions based on detailed fire statistics.

- 1) Under various fire risk conditions, what is the importance of each ignition source?
- 2) What percentage of the ignition sources are secondary sources?
- 3) In which areas should special attention be paid to secondary ignition sources?
- 4) To what extent did different ignition sources contribute to fatal fire accidents?

The laboratory ignition sources described in this document are intended to simulate real ignition sources, which have been shown to cause real ignition problems involving plastics.

The cause of the fire. Laboratory ignition sources are preferable to actual ignition sources because they are consistent and improve the accuracy of data analysis within the laboratory.

Repeatability and reproducibility between laboratories.

These laboratory ignition sources can be used to develop new testing procedures.

Standard ignition source for plastic combustion test

1 Scope

This document describes a series of laboratory ignition sources for fire testing of plastics and products primarily composed of plastics, and provides an overview of these sources.

Classification. These ignition sources vary in intensity and range of impact, simulating the initial heat that plastics might experience in certain real-world fire risk scenarios.

abuse.

This document describes the ignition sources used in different standards (methods, specifications, or procedures), including those used to assess the flammability of plastics and plastic-containing products.

Performance. The ignition source described in this document relates to flaming and flameless ignition methods. The ignition sources described in this document are based on relevant standards.

This document does not discuss the standards that reference these ignition sources, and may not include all ignition sources.

This document does not cover detailed experimental procedures.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

hot-airfurnace

Note: GB/T 14523-2007 Fire reaction test - Test method for flammability of building products under radiant heat source (ISO 5657:1997, IDT) ISO 5658-2 Response to fire - Test for flame spread - Part 2: Lateral spread of vertically configured building and transport products Note. GB/T 28752-2012 Test method for transverse spread of flame on a vertical surface (ISO 5658-2:2006, MOD) ISO 5659-2 Plastics-Smoke Generation Part 2: Determination of Optical Density by Single-Compartment Test ISO 5660-1 Ignition reaction test - Heat release, smoke generation and mass loss rate - Part 1: Heat release rate (cone calorimetry) ment]] Note. GB/T 16172-2007 Test method for heat release rate of building materials (ISO 5660-1:2002, IDT) ISO 8191-1 Flammability assessment of upholstered furniture - Part 1: Ignition source. smoldering cigarette smoke (Furniture-Assessment-ISO 8191-2 Flammability assessment of upholstered furniture - Part 2: Ignition source. Match flame equivalent (Furniture-As-ISO 9705-1 Fire reaction test for wall and ceiling lining products - Part 1: Small room configuration